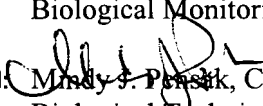


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

DATE: AUG 13 2004

SUBJECT: Biological Technical Assistance Group Review
Biological Monitoring Plan for Kin-Buc Landfill

FROM:  Mandy J. Pinski, Coordinator
Biological Technical Assistance Group (DESA-HWSB)

TO: Grisell Diaz-Cotto, Remedial Project Manager
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The following comments represent the Region II Biological Technical Assistance Group (BTAG) review. The document reviewed by the group was the "Biota Monitoring Study (Year 7)," dated March 2004, and prepared by Normandeau Associates, for Operable Unit 2 (OU2) of the Kin-Buc Landfill site located in Edison Township, Middlesex County, New Jersey.

The conclusions of the report contain two recommendations for future monitoring: (1) discontinue Reference Creek sampling, and (2) reduce monitoring frequency to a bi-annual schedule (page 26). The BTAG does not support these changes to the monitoring plan.

Historically, the initial 1995 post-remediation sediment data showed PCB sediment concentrations on average substantially lower than the pre-remedial concentrations and the 5 ppm cleanup goal. Recently, the results of supplemental sediment sampling from the Raritan River at the mouth of Edmonds Creek and from Edmonds Creek Marsh sediment collected proximate to the abandoned railroad embankment were encouraging due to the lower concentrations of PCBs detected. However, the results from the 7th year Biota Monitoring Study (BMS) continue to demonstrate non-compliance with the sediment remediation goal of 5 ppm PCBs, a concern expressed in previous BTAG memoranda. Since 1996, PCB sediment concentrations have, consistently or sporadically, exceeded the remediation goal in various zones within Edmonds Creek. The 2003 data presented indicate that total PCB concentrations for 9 of 28 (32%) sample locations in these Edmonds Creek zones exceeded the 5 ppm remediation goal. Additionally, 3 of the 7 (43%) zones had mean PCB concentrations that exceeded the remediation goal. Overall, the site-wide mean in sediment PCB concentration was higher in 2003 than it has been in all previous years (page 26). Although no apparent spatial trend in sediment PCB levels have been revealed, the annual variance in PCB concentration is too great to be attributed to either the analytical method or statistical 'noise.' Based on a direct comparison of numbers, Remediated Zones 1 and 2 are the only two zones in Edmonds Creek that consistently have had sediment PCB concentrations below the remediation goal for all of the biomonitoring years.

The data presented in the monitoring report appears to indicate that a potential continuous source(s) of PCBs exists which could eventually negate the performed remedial action. The most obvious omission in the Year 6 Biota Monitoring Study is the lack of an attempt to identify existing or possibly new sources of PCBs at the site, as previously recommended by the BTAG (e.g., the BTAG's 07/2002 and 02/2004 memoranda). Page 2 of the Executive Summary states that "due to concern regarding the possibility of a continuing source of PCB contamination to the Edmonds Creek Marsh Sediments that data collected from past and future monitoring efforts will not identify, a visual site investigation will be conducted. The results of this investigation (when completed) will be reported separately . . ." The consensus from previous BTAG meetings regarding the ongoing post-remedial biomonitoring at the Kin-Buc Landfill Site was that a program should continue beyond the five-year post-remedial period and that a scaled-down version would be acceptable during the additional contaminant delineation activities. It appears no effort was taken to address the ongoing/new contaminant source issue. Section 6.0,

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Recommendations for Future Study, does not include any recommendations on activities to identify a continuing source of PCB contamination. This issue must be addressed prior to any additional biomonitoring efforts. Specifically, an attempt should be made to characterize the extent and degree of contamination in Edmonds Creek and Edmonds Creek Marsh and to investigate current PCB source(s) and pathways to the creek and marsh. This will require more intensive sediment sampling of Edmonds Creek than currently proposed in the biomonitoring plan and more than just a "visual site investigation" of any additional sources that may be in the vicinity of the site.

It certainly appears that continuing with the same biological monitoring program design will not help to identify the location of the continuing sources of PCBs to Edmonds Creek. No information has been obtained that has supported defining why the PCBs in the creek have continued to exceed the remedial goal or why the concentrations have varied spatially and temporally in the manner that has been observed. It is the BTAG's recommendation that the cause of the elevated PCB concentrations be identified so that any required actions may be undertaken to allow the sediment remediation goal to be consistently achieved. You should be in receipt of a July 16, 2004, memorandum from Lisa Rosman of NOAA to Mindy Pensak of the USEPA's BTAG that details several options for investigation of potential source areas. The BTAG accepts these proposals as worthy of consideration and has recommended for some time that such an investigative program be pursued.

The monitoring program has never, by design, been specific about how to determine when monitoring can be conducted less frequently and/or potentially when monitoring may cease. The company has requested decisions on these issues in this report and in prior years' reports. Changes in frequency of the monitoring program should be based on achievement of the remediation goals. The frequency of monitoring could be reduced once the remediation goal has been consistently met. Termination of the monitoring program should not be allowed as significant amounts of contamination are contained within the landfill, only separated from the creek by the slurry wall. Also, based on the recent field walk-through (April 6, 2004), unidentified drums might be present within the marsh and continued monitoring would provide a barometer for changes in contaminant conditions.

Starting on page 3, the data in the report are consistently compared to pre-remediation numbers instead of remediation goal numbers. Since this is a monitoring report with a remediation goal, the report should also present comparisons to the remediation goal. For example, at the bottom of the Sediment section on page 3, it is noted that "thus, since 1996, PCB concentrations have been between 11.0 and 14.2 ppm lower than they were prior to the remedial excavation." The 2003 sediment site-wide mean concentration of 6 ppm PCBs is buried in this paragraph and is not highlighted. The fact that this site-wide mean exceeds the remediation goal 7 years after remediation is not emphasized and is hidden from the reader. The conclusion to this section of the Executive Summary should read: "thus, based on the mean PCB sediment concentrations measured in 2003, the remediation goal has not been met."

On page 4, the results of cumulative means from 1.4 ppm PCBs at the onset of sampling to 1.1 ppm PCBs this year should be called a decreasing trend. They may be statistically the same number based on the variation in concentrations or size of the organisms. Fiddler crabs located away from PCB sources in Edmonds creek had concentrations of 0.4 ppm, only slightly elevated compared to reference concentrations.

On page 8, the reasoning behind the different compositing schemes should be clarified. The nine sediment samples originally collected for the bioaccumulation test, which has been discontinued, are prepared differently than the twenty-seven other composites. Compositing of multiple sediment samples

has the effect of diluting the higher individual sample concentrations and increasing the lower sample concentrations. Thus, the analysis of a composite sample, which represents an average of several samples, has an inherent bias when comparing to the remediation goal since it does not reflect individual samples. Future sampling should consider analysis of discrete samples or discuss the inherent bias associated with compositing several samples relative to the study objective.

To date, data have only been provided in hard copy format (page 9). It has been requested by members of the BTAG that the existing raw data in .xls or .dbf format (file or CD) be made available and that a database submission be a component of all future monitoring reports. This will permit independent analyses of the current dataset and allow for the assessment of future data and any statistics that might ultimately be performed by the consultant.

The table on page 24 should be used for assessing how the results meet the monitoring objectives. For example, objective 1 of the monitoring goal states: "1) evaluate whether the remediation effort was successful in achieving a remediation goal of 5 ppm PCBs in sediment." The report should end with how well the stated objectives for the monitoring plan were met listed point by point.

Figures 5-11: Please add a line to each figure showing the remediation goal of 5 ppm PCBs. The different y scale axes on the figures make interpretation more difficult.

The BTAG is interested in reviewing any future documents pertaining to this site. If you have any questions, comments, or require further information, please contact Christopher Stitt at (732) 321-6676.

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